ENVIRONMENTAL ASSESSMENT
STATEMENT OF FINDINGS
AND
FINDINGS OF NO SIGNIFICANT IMPACT

File No. 2008-01138

Proposed Recessed Excavation and Private Boat Docks

Sailboat Hollow Development

In an Embayment of Tennessee River Mile 271.3, Right Bank,
Wilson Lake, Lauderdale County, Alabama

U.S. ARMY CORPS OF ENGINEERS
Nashville District, Regulatory Branch

In Cooperation with
TENNESSEE VALLEY AUTHORITY

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CHAPTER 1.0 PURPOSE AND NEED FOR ACTION

1.1 Background. On October 23, 2008, Mr. Bubba Doss, Sailboat Hollow Development, Inc., 2400 Highway 101, Rogersville, AL 35652 submitted applications for a Department of the Army (DA) permit pursuant to **Section 10 of the Rivers and Harbors Act of 1899** and approval from the Tennessee Valley Authority (TVA RLR permit #189371) pursuant to **Section 26a of the TVA Act.** The application originally requested authorization to excavate a 200' wide, 1,200' long recessed channel, into the hollow at the subject location to create single-family residential waterfront properties. In April 2009, the applicant reduced the scope of excavation to a 150' wide, 500' long recessed channel to eliminate the need for TVA to acquire additional flowage easement rights at this location. The shoreline would front 15 of 28 planned lots and allow for construction of one fixed and covered dock per lot. The proposed action is located within a tributary of the Tennessee River Mile 271.3, Right Bank, Wilson Lake, Lauderdale County, AL. USGS Quad- Killen, AL, lat: 34-48.9; lon: -87-26.2. TVA Tract #WDRE69, RLR #189371. The development is named Sailboat Hollow.

1.2 Purpose and Scope of Work. The proposed action consists of excavating a recessed channel to create single-family residential waterfront properties for 15 subdivision lots and allow for construction of one private dock per lot (up to 1,000 sq. ft.). Summer pool is Elevation 507.5-foot mean sea level (msl); winter pool is Elevation 505.3 msl. The property itself reaches elevations as high as 680 msl. At this location along the river, the 100- and 500-year flood elevation is 508.2 msl.

The channel would be excavated to Elevation 498 msl requiring the removal of approximately 26,400 cubic yards of bottom sediment and alluvial material from back of the slough to the shoreline. The proposed excavation would remove a combination of wetlands (0.8 acres) and special aquatic site (1.06 acres); total 1.86 acres. The excavated materials would be loaded into trucks and disposed at a previously disturbed areas located within ½ mile of the site. A new road into the subdivision would cross headwater streams that feed the embayment with three culverts---double 60" diameter Reinforced Concrete Pipe (RCP); 48" diameter RCP; 36" diameter RCP. An area of stream corridor on the applicant's property containing a waterfall and rare plant habitat would be protected from future development and serve to partially mitigate the effects of wetland loss (1.86 acres conservation easement).

The scope of the work includes the recessed excavation, bank stabilization; fifteen fixed and covered boat docks, wetland mitigation, and a conservation area. Public Notice 08-78 dated December 10, 2008, Appendix A, describes the proposed work.

1.3 **Decision Required.** Section 10 of the Rivers and Harbors Act of 1899 prohibits the alteration or obstruction of navigable waters of the United States unless authorized by the Secretary of the Army acting through the Chief of Engineers. This river embayment is a navigable water of the US as defined by 33 CFR Part 329. Section 26a of the TVA Act requires that no dam, appurtenant work, or other obstruction affecting navigation, flood control, or public lands or reservations be constructed and thereafter operated or maintained across, along, or in the Tennessee River or any of its tributaries until plans for such construction, operation, and maintenance have been submitted to and approved by TVA. TVA is a cooperating agency in the preparation of this environmental assessment. DA and TVA permits are required; therefore, the DA and TVA must decide on either issuance of a permit for the proposal, issuance of a permit with conditions, or denial of the permit.

Other Approvals Required. In addition to the DA and TVA permits, other federal, state, and local approvals may be required for the proposed work.

- **Section 301 of the Clean Water Act** (CWA) prohibits the discharge of fill material into waters of the US unless authorized by the DA pursuant to Section 404 of the same Act. The proposed minor deposit of fill material associated with stabilizing the shoreline and the road crossing activities meets the criteria for authorization by DA Nationwide Permits (NWP) #13 and #14, respectively, dated March 19, 2007. By previous issuance of the NWPs, it was determined that activities performed in accordance to their criteria comply with the intent of Section 404 of the CWA and no need to repeat the 404(b)(1) process at the time a particular discharge covered by the permit takes place.

- In accordance with Section 401(a)(1) of the CWA, the Alabama Department of Environmental Management (ADEM) issued a conditional water quality certification that applicable water quality standards would not be violated for work authorized by NWPs #13 (riprap) and #14 (roads), on May 30, 2007. ADEM requires that the applicant use best management practices (BMPs) while performing the work (Appendix D). No further water quality determination is required for this action.

CHAPTER 2.0 Public Involvement Process. On December 10, 2008, Public Notice 08-78 (Appendix A) was issued to advertise the proposed work. No comments from the public were received. As mentioned below, comments were received from one federal and two state agencies. There were no requests for a public hearing. Copies of the letters are included in Appendix B, and summarized as follows:

a. In its December 31, 2008, letter, the **US Fish and Wildlife Service** (USFWS) states that based on their records, there are no federally-listed or proposed endangered or threatened plant or animal species in the impact area, and requirements of Section 7(c) of the Endangered Species Act of 1973, as amended, are fulfilled. No significant adverse effects to fish and wildlife, their habitats and human uses thereof are expected to result from the proposed work provided (1) BMPs are used during construction, (2) excavation activities occur during low winter pool elevations, (3) excavated materials be placed and stabilized in a previously disturbed upland site (4) an erosion and sediment control be developed and in place such as silt fences and hay bales around the perimeter of landside of the embayment prior to start of excavation. Lastly, USFWS stated that it was unconvinced that the originally proposed wetland mitigation, i.e., new shoreline interface or wetland shelves, would fully compensate for wetland habitat loss at a 1:1 ratio. Furthermore, USFWS requested that the current ecological function of the wetlands to be impacted be assessed using the Wetland Rapid Assessment Procedure (WRAP). *Applicant Rebuttal: By letter dated January 13, 1009, the applicant's consultant stated that they concurred with the recommendations of the USFWS and intends to carry them out in accordance with a Construction Best Management Practices Plan to be prepared for the project are prior to initiation of construction activities. Corps Note: TVA conducted a site inspection on March 18, 2009 and, conducted a Wetland Rapid Assessment Method (RAM) for the applicant, determining that more mitigation for loss of 1.86 acres of wetland would be appropriate. Based upon the RAM, the wetland area scored Category II, therefore, a 2:1 mitigation ratio would be required to offset wetland loss. The Corps and TVA agree that this is appropriate mitigation. Applicant: The applicant has agreed to purchase 1.86 acres of wetland credits from a local approved Wetland Mitigation Bank, and place 1.86 acres of property (waterfall, rare plant area) into a conservation easement. See Applicant agreement in Appendix E.*

b. In its December 23, 2008, letter, the **Alabama Historical Commission (AHC)** requested that a professional archaeologist conduct a cultural resource assessment to identify any cultural resources which may be present, and submit the findings to their office for review. In addition, they request photographs for all structures within view of the project area, keyed to a good quality USGS map. *Applicant Rebuttal: By email letter dated January 30, 2009, the applicant stated that an archaeologist had performed a site file search and found no archaeological sites recorded in the area and that the only structures in the vicinity that possibly could have historical significance is Lock Four of the Wilson Dam, which would not be affected by the proposed project. Corps Note: In its letter dated February 19, 2009, the Corps concurred with this finding and determined that no historic properties listed on or eligible for listing on the National Register of Historic Places will be affected by this project, and requested the Alabama Historical Commission, State Historic Preservation Officer's (ALSHPO) concurrence. ALSHPO Concurrence: By letter dated March 2, 2009, ALSHPO concluded that the proposed work would have* ***no effect*** *on National Register of Historic Places listed or eligible properties and had no objections to proceeding with the project provided work ceases should any archaeological resources be encountered during the project activities.*

c. By letter dated January 12, 2009, the **Alabama Department of Conservation and Natural Resources** (ADCNR) stated that mitigation by creation of a wetland shelf seems highly problematic and it is unlikely that the individual homeowners will tolerate dense emergent shoreline vegetation. ADCNR felt that mitigation should be addressed by the purchase of credits from an approved mitigation bank. The state also says that closest sensitive species, the Alligator Snapping Turtle, has been found 1.3 miles from the project site and that the destruction and disturbance of this species habitat should be avoided and the taking of the animal itself prohibited.

CHAPTER 3.0 Environmental and Public Interest Factors Considered

3.1 Introduction. 33 CFR 320.4(a) states the decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. Public Notice 08-78 lists factors that may be relevant to the proposal and must be considered. The following sections discuss factors identified as relevant and provide a concise description of the anticipated impacts.

3.2 Physical Characteristics and Anticipated Changes. Relevant blocks are checked with a description of the impacts.

(x) Inspection of Proposed Work Site. Representatives of the Regulatory Branch participated in a pre-application meeting with the applicant and TVA on August 19, 2008. Photographs taken and a memorandum of the inspection are in Appendix C. No extraordinary features regarding the site or proposal were found during the initial inspection. TVA staff also conducted its evaluations onsite, on December 8, 2008, February 4, 2009, and March 17 and March 18, 2009. On the March 18, 2009, site visit, TVA staff found a state-listed plant, false rue anemone (*Enemion biternatum*), along an unnamed stream, near the waterfall, on the applicant's property. See endangered and threatened species in Section 3.3.

(x) substrate. The proposed work consists of excavation of a 150' wide, 500' long, recessed channel into the hollow on the applicant's property. The channel would be excavated to bottom Elevation 498 msl and require the removal of approximately 26,400 cubic yards of material from back of the slough to restore a former shoreline. The activity would remove a combination of sediment, silt, rocky soil, and wetlands and aquatic habitat common to this area and other cove settings on Wilson Reservoir. Effects of the removal and creation of deeper habitat would add to the diversity of the area. However, these effects would be minor and insignificant. Because this material, once removed, would be relocated onto uplands sites, none of this dredge spoil material would reenter the reservoir.

(x) currents, circulation or drainage patterns. Following excavation, riprap or natural stone would be placed along the top edge of the shoreline, and herbaceous plant species would be established within the riprap to provide a year-round vegetative cover. With the placement of riprap, the bank would become more stable and may cause a beneficial effect to the drainage patterns along the shoreline. Placement of various large sized rocks would trap and cause a reduction in the amount of silt accumulation into the harbor.

(x) storm, wave and erosion buffers, shore erosion and accretion patterns. Stabilizing the shoreline with riprap provides hard armoring that addresses the potential of possible erosion to the shoreline. By nature of the riprap, waves and currents during high flow events would generally break on the riprap before causing deterioration of the shoreline.

(x) baseflow. A new road into the subdivision would cross headwater streams that feed the embayment with three culverts (double 60" dia. RCP; 48" dia. RCP; 36" dia. RCP). According to the application, the culverts have been sized by an engineer to carry expected high flows.

(x) suspended particulates, turbidity. Riprap would be placed along the shoreline from the landside of the harbor. There would be some minor amount of dust, turbidity, and suspended particulates during placement. Excavating the harbor during winter low pool elevations would minimize turbidity versus performing the work when elevations of the reservoir and water table are higher. The turbidity would be minimal and quickly dissipated by normal currents.

(x) flood control functions. The dredging activity would remove about 26,400 cubic yards of material; and upon excavation the area would fill with water to normal lake levels. The excavated material would be disposed and stabilized outside of the 500-year floodplain elevation. Lauderdale County participates in the National Flood Insurance Program, and any development must be consistent with these regulations. While TVA has flowage easement rights over this property, to permit the agency to flood the land to Elevation 509.34 and, at a minimum, prohibit construction of certain types of structures, there is no flood control storage on Wilson Reservoir; therefore, the TVA Flood Control Storage Loss Guideline does not apply.

(x) water quality (temperature, color, odor, nutrients). *Alabama's Water Quality Assessment and Listing Methodology* (ADEM 2008) identifies vicinity of the mouth of Shoal Creek, Wilson Reservoir, a short distance downstream, as supporting swimming and other whole-body water-contact sports, as well as fish and wildlife. Performing the excavation activity during winter pool conditions would reduce temporary anticipated impacts to water quality. The rock to be used for bank stabilization would be clean, natural material (quarry-run riprap with no waste). Construction and operation of the boat slips would have no impacts on water quality or affect Wilson Reservoir's designated uses. Overall, adverse water quality impacts would be minor. ADEM issued a conditional water quality certification for the minor activities associated with the project that meet the criteria for NWP #13 (bank stabilization) and #14 (minor road crossings of streams). A copy of ADEM's required conditions, or "Best Management Practices", Appendix D, would be made a part of any permit issued for the proposed work, by condition.

3.3 Biological Characteristics and Anticipated Changes.

(x) special aquatic sites (wetlands, pool and riffle areas, sanctuaries, refuges). A wetland delineation, prepared for the site by Geo-Source, Inc., Florence, AL, was submitted with the permit application. Further site inspections by TVA revealed hydrophytic vegetation within the area to be excavated consists of a mix of scrub-shrub and emergent wetland habitat. Within the affected cove area the variety of trees, shrubs, and herbaceous plants are indicative of bottomland and marshy sites. The trees are largely red maple, box elder, sweet gum, sycamore, and black willow species. The proposed dredge activity would remove a combination of wetlands (0.8 acres) and special aquatic site, floating emergent wetland vegetation (1.06 acres). According to the applicant, some portion of the impact area, including that which has been delineated as wetlands, appears to have been an open water slough in the past (i.e., portion of the reservoir).

The original proposal by the applicant included a plan to mitigate for wetland impacts at a 1:1 ratio by creation of 0.8 acres of wetland shelf habitat. Review of this proposal by USFWS and ADCNR, as well as TVA, lead to the conclusion that this proposal was impractical and results of implementation would be insufficient to compensate for wetland impacts. An ecological assessment (Wetland Rapid Assessment Method (WRAM)) of the wetlands conducted by TVA biologists indicated the wetland area ranked as a Category 2 or moderate quality wetland and, therefore, would need to be mitigated at a 2:1 ratio.

During the conduct of the WRAM, TVA biologists discovered a state-listed plant, false rue anemone (*Enemion biternatum*), near a waterfall located northwest of the proposed dredge area on the applicant's private property. This plant is located downstream of the waterfall along the right descending bank of an unnamed stream. The stream associated with the waterfall pools beneath the falls and shortly thereafter flows underground. A dry stream channel is typically present from the existing waterfall to the reservoir near the dredge site. No surface flow occurred downstream of this point beyond the waterfall during TVA's site visits or observed after substantive rainfall events.

Based upon the WRAM and the comments of the USFWS, the Corps and TVA would require mitigation for the 1.86 acres of wetlands/ special aquatic vegetation, which would be impacted during the excavation activities.

As mitigation for wetland and special aquatic site loss, the applicant would purchase 1.86-acre credits from an acceptable wetland mitigation bank (1:1 ratio) and, in addition, set aside a habitat protection area around the state-listed plant, unnamed tributary stream channel and waterfall. This area would be designated through appropriate covenants in a conservation easement and afforded protection in perpetuity (see endangered and threatened species below).

(x) habitat for fish and other aquatic organisms. Excavation would remove some substrate used by fish and aquatic organisms for feeding; however, because the water would be deepened, the action would also create substrate that would be more diverse and probably be used by an increased variety of fish and aquatic organisms. Over time aquatic species would be expected to recolonize both on the new lake bottom and within the voids of the rock (riprap) and within the wetland vegetation along the shoreline located below water level. Dredging could cause a temporary disturbance to some fish species in the front of the harbor. By performing the work during winter pool (non-spawning periods of the year), effects would be minimized. Boat slips in the harbor would provide shading, which is a positive benefit to fish and aquatic habitat on the river bottom. Construction would have a temporary minor adverse impact on aquatic organisms until the area achieves equilibrium.

(x) endangered or threatened species. The USFWS, in its letter dated December 31, 2008, stated that no federally listed or proposed endangered or threatened species occur within the project area. The Alabama Department of Natural Resources stated the hollow may be habitat for the Alligator Snapping Turtle (*Macrochelys temminckii*), state-listed and ranked S3 - vulnerable, which has been recorded 1.3 miles away from the proposed site. TVA has a 1980 record of this species of turtle reported to occur below Wheeler Dam. This aquatic turtle, which would likely not inhabit the project impact area, would not likely be affected. Furthermore, the applicant has been made aware and has agreed to stop all work and notify the Corps if this protected species of turtle is discovered during construction.

Review of the TVA's Natural Heritage database and a recent field visit, revealed that there are two Alabama state-listed plants known reported from within a five mile radius of the proposed Sailboat Hollow development. Lake cress (*Neobeckia aquatica*), an S1 - critically imperiled plant (often with 5 or fewer occurrences), occurs approximately 4 miles south of the

development and false rue anemone, an S2 - imperiled plant (often with <20 occurrences), is located along an unnamed stream on the applicant's property. No federal listed plant species are known to occur within Lauderdale County, Alabama. The development of Sailboat Hollow in the area of the waterfall would negatively impact populations of false rue-anemone. To minimize impacts to false rue-anemone, the applicant would set aside a 1.86-acre area along the existing unnamed tributary stream and waterfall area on his property. This area shall be designated through appropriate covenants in a conservation easement and afforded protection in perpetuity (see special aquatic sites above).

(x) wildlife habitat. Wildlife habitat in the project site is minimal under present conditions. Less use of the area by terrestrial wildlife is likely to occur due to the increase in human presence. This would result from residential development of the subdivision and not solely from construction of the dredge area and use of the proposed docks. Wildlife would likely displace to other areas where development has not yet occurred. Depending on the available habitats and displaced species, a few individuals may be lost from the population until it reaches a new equilibrium. Waterfowl and aquatic mammals, likely wintertime or infrequent users of the cove area, may use the riprap shoreline and the boat docks for perching, resting, and in the pursuit of prey. The proposed work would not adversely impact wildlife habitat.

(x) biological availability of possible contaminants in dredged or fill material. Clean shot rock would be used for the riprap bank stabilization. No contaminants would be deposited behind the riprap.

3.4 Human Use Characteristics and Anticipated Impacts.

(x) air quality. The proposed project has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act, and it has been determined that the activities proposed under this permit will not exceed de minimus levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the DA or TVA continuing program responsibility, and cannot be practicably controlled by the Corps, and, for these reasons, a conformity determination is not required for a permit.

(x) navigation, water-related recreation, safety. At Tennessee River Mile 271.3, where the proposed development would occur in an unnamed tributary stream embayment, the navigation channel is the full width of the reservoir. The reservoir at this location is of sufficient depth and width to accommodate recreational boaters and a commercial towboat and its barges at any point between the banks in the vicinity of mile 271.3. This is generally true for the length of Wilson Reservoir. The actual sailing line for commercial traffic hugs the adjacent shoreline (north shore or right descending bank) at mile 272 just upstream from the proposed development. The sailing line is the path that commercial tows typically take as they move up- and downstream, and is typically as much of a straight line as possible because straight-line distances are the most fuel efficient. Additionally, there is a commercial first class safety landing between miles 272 and 273 on the shoreline adjacent to the proposed development.

The proposed dredge and docks would be behind an existing marina (Muscle Shoals Sailing Marina). The work would be for the benefit of the private lot owners in the subdivision. The 15 proposed new boat docks may create minor new obstacles in the harbor at first; however given that no boat can navigate within the area now and generally only the owners of the docks would use the hollow, the additions would not be much more than existing conditions. Fisherman and the public would be able to use the hollow for fishing and recreation. Dredging would occur in the back of the harbor and during the winter pools when recreational users at the Sailing Club are not at a peak.

Navigation technical specialists at TVA found that if the dredging, riprap and individual docks are constructed as shown in the application, and the following conditions are met, there will be no significant impact to Navigation:

- The applicant would be advised in writing that the facility will front near a commercial navigation channel at a location where the navigation channel follows the subdivision side of the river making this facility and any moored boats vulnerable to wave wash and possible collision damage from passing vessels.
- Water-use facilities would not extend more than one-third the distance from the originating shoreline to the opposite shoreline at normal maximum pool elevation.
- Any floating structures would be securely anchored to prevent them from floating free during a flood event.

- Any fixed structures must have a floor elevation at least 1.5 feet above the normal summer pool elevation of 507.5' above msl.

(x) traffic/transportation patterns. To dispose the excavation and dredged materials on upland properties away from the site, the applicant would need to utilize the single narrow road into the site. While the road is in fairly good shape, there are a number of existing subdivisions located along this road where a truck full of dredged material may cause a hazard or slow down of traffic. His responsibility, the applicant has verbally agreed to sign the road and warn of the possible hazard during the days that disposal transportation occurs. In addition, the construction of new slips would increase traffic patterns into and out of the harbor. The addition of slips would allow for more boats to be moored in this embayment of Wilson Lake, but maneuvering around the slips of the Muscle Shoal Sailing Marina would not be much of change to existing conditions.

(x) aesthetics. The riprap on the shoreline, the construction of the new sailboat dock, and other improvements would have a minor impact on aesthetics. The riprap material proposed for use would be natural quarried limestone, and boat slips already exist at the site, so the additions would not be out of the ordinary for this type setting.

( ) energy consumption or generation. No issues.

( ) existing and potential water supplies; water conservation. No issues.

(x) noise. Work would be performed during daylight hours. Equipment shall be limited to small machinery operating within normal ranges expected for construction equipment.

(x) historic properties and cultural values. The applicant provided information that a site file search found no archaeological sites recorded in the area and that the only structures in the vicinity that possibly could have historical significance is Lock Four of the Wilson Dam, which would not be affected by the proposed project. The Corps and the Alabama Historic Commission, as evidenced by its letter of March 2, 2009, both concur with this finding. See Chapter 2 Public Involvement Process.

( ) conservation or mineral needs. No issues.

(x) land use classification. Flowage easement rights at this location were acquired on January 17, 1920 in the name of the United States of America for the construction of Wilson Dam. Flowage easement rights were purchased to elevation 505-foot msl, and the General Adjustment of 1929 corrected the flowage easement contour to the elevation 509.34-foot msl. The management of flowage easements surrounding Wilson Reservoir was transferred to the TVA in 1933 with the creation of the TVA Act. The proposed work would occur within the limits of a previously established TVA flowage easement.

(x) economics. The proposed activities would likely increase the subdivision property values by enhancing the lake benefits of the property and providing protection to the boats moored there with deep water access.

( ) general environmental concerns. No issues.

( ) food and fiber production. No issues.

(x) consideration of private property. The applicant owns the property outright with the exception of the TVA flowage easement.

(x) environmental justice. The project has been reviewed with respect to environmental justice and it has been determined that there is no disproportionate concentration of minority or low-income persons within the vicinity of the project site.

(x) floodplain values. TVA has determined that adverse impacts have been minimized. All excavated materials would be disposed and stabilized at upland sites outside the 500-year floodplain elevation.

3.5 **Cumulative and Secondary Impacts.** One of the most important aspects of environmental review is consideration of how actions by others (including those actions completely unrelated to the action) have and will affect the same resources. Cumulative environmental effects for the proposed facilities were assessed in accordance with guidance provided by the President's Council on Environmental Quality (USEPA, EPA 315-R-99-002, May 1999). This guidance provides a process for identifying and evaluating cumulative effects in National Environmental Policy Act. For purposes of cumulative impact assessment, the spatial boundary has been broadened to consider effects of the work and its affects to others. In this case, a subjective five-year focus period for reasonably foreseeable future actions includes:

- Growth in users of the embayment attracted by the new proposed facilities
- Further dredging of the embayment
- Increases and additional changes in boat slips
- Adjacent existing and/or proposed new subdivisions performing similar works
- Maintenance and/or improvement to areas roads
- Change of existing land use patterns in the area
- Future infrastructure to the harbor

Future associated work that may be proposed in the vicinity of the site can be identified as cumulative or secondary impacts; however, determining the magnitude and significance of cumulative effects; modifying to avoid, minimize or mitigate significant cumulative effects, and planning for monitoring and adaptive management would have to be addressed on a case-by-case basis. Overall, while there would be permanent impacts on the tract; given the relatively small area of impact and the relatively low physical and biological functions present in the impact area, the proposal is not anticipated to have a cumulative or secondary effect upon the existing environment and the sustainability of important resources would not be adversely affected.

CHAPTER 4.0 ALTERNATIVES

4.1 Introduction. This section discusses alternatives as required by 33 CFR 320.4(a)(2). The relevant environmental issues identified were used to formulate the alternatives. The alternatives that were given detailed consideration are listed below.

4.2 Description of Alternatives.

a. No Action. This alternative would result in denial or withdrawal of the applicant's request to make renovations to the hollow the subject location.

b. The Proposed Action. The proposed work consists of excavating a 150' wide, 500' long, recessed channel causing the removal of approximately 0.8 acres of wetlands and 1.06 acres of special aquatic site, construction of 15 private docks, and 1,800 linear feet of riprap bank stabilization and wetland vegetation along the shoreline, as described and shown in plans in the Public Notice 08-78, Appendix A.

c. Appropriate Mitigation To Proposed Action. In accordance with CFR 320.4(r), our review of the proposed action has revealed mitigation measures (listed in Section 5.5) typical for activities of this nature, which would reduce environmental impacts of the proposed action. This alternative would be composed of the applicant's proposal as described in b. above with the inclusion of the special conditions that would minimize and mitigate unavoidable adverse impacts.

4.3 Comparison of Alternatives.

a. No Action. With this alternative, the applicant would not make all of the proposed changes to the hollow. If the applicant did not excavate the hollow, then they may be able to construct a 15-slip community dock in the far back of the existing embayment. The applicant may also be able to dredge a minor amount from the existing to obtain deeper water depths. According to information provided by the applicant, not sufficiently dredging the back of harbor would not allow construction of the individual docks because safe navigation depths do not exist there. Direct impacts of dredging the harbor bottom would not occur if the permit were not issued. Not enlarging the harbor may suppress the growth of the subdivision.

b. Applicant's Proposal. This alternative would have economic benefits to the applicant and the 15 lot owners in the subdivision. The major benefit is the improvement of the lakefront recreational facilities by the creation of private boat docks, which may attract buyers of the lots and/or houses on the lots. The proposed action may increase the property value of the subdivision, which in turn may increase property tax income for the county. The proposal would have beneficial impacts on recreation, aquatic organisms, and wildlife. Aquatic organisms might be expected to recolonize within the voids of the rock in the breakwater. The work would promote safety of the boats moored there and provide needed water depths in the area proposed for the new dock. The work meets the desired needs of the applicant. No properties listed in or eligible for the National Register of Historic Places would be affected. No federally-protected species would be adversely impacted. This alternative would have minor adverse and beneficial impacts on aquatic environment due to the displacement and creation of substrate.

c. Applicant's Proposal with Special Conditions. The impact of this proposal would be similar to the description in b. above. The addition of special permit conditions would require that the work be constructed in a manner that would minimize adverse

impacts to the environment. Some conditions, which might apply to this type of work, would include using only clean shot rock, performing the work during low pool conditions, disposing of dredged material above the 500-year flood plain elevation, and stabilizing any disturbed areas. This alternative would have the least adverse impacts of the options under consideration. If appropriate mitigation measures are implemented, impacts to the environment could be further minimized.

5.0 Findings

5.1 Consideration of Comments. No issues of concerns were received in response to the public notice. There were no requests for a public hearing. Recommended special conditions of the USFWS have been incorporated as Special Permit Conditions, see below. Issues regarding potential affects to archaeological or historical properties were addressed and a no effect finding by the Corps was concurred by the Alabama Historical Commission.

5.2 Recommended Special Permit Conditions. The following recommended conditions are typically included in most DA permits, and are necessary to comply with federal law, while affording appropriate and practicable environmental protection.

1. The work must be in accordance with any plans attached to this permit. You must have a copy of this permit available on the site and ensure all contractors are aware of its conditions and abide by them. *Justification: Ensure compliance.*

2. Your use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the US. *Justification: 33 CFR 325, Appendix A.*

3. Only quarry-run stone (size range from 6" - 18" diameter) or its equivalent, i.e., shall be used to stabilize the bank. The materials will be clean and free of waste metal products, organic materials, unsightly debris, etc. Bank stabilization activity shall be performed in accordance with the ADEM required BMPs. *Justification: Environmental Protection - to reduce to possibility of harm to the environment and water quality and negate the use of contaminated materials.*

4. All excavation work shall be performed during Winter Lake winter pool (normally October through March). *Justification: reduce impacts to water quality and users of the marina.*

5. Excavated materials shall be removed from the site and deposited at a previously disturbed location above the 500-year contour. *Justification: Prevent erosion back into the lake and to reduce impacts to the floodplain.*

6. Periodic maintenance dredging of the project, in accordance with the same terms and conditions, may be performed for ten years from the date of permit issuance. Permittee will advise this office in writing at least four weeks before undertaking maintenance dredging. *Justification: Allows for maintenance.*

7. The permittee shall insure that all disturbed areas are properly seeded, riprapped, or otherwise stabilized as soon as practicable to prevent erosion. An erosion and sediment control be developed and in place such as silt fences and hay bales around the perimeter of landside of the embayment prior to start of excavation. *Justification: To minimize the amount of disturbance in the work area.*

8. The applicant will abide by the conditions of the Alabama Department of Environmental Management water quality certification that requires use best management practices while performing the work. *Justification: To minimize the amount of disturbance in the work area and reduce impacts to water quality.*

9. To avoid impacts to navigation, the applicant shall:

- Be advised in writing that the facility will front near a commercial navigation channel at a location where the navigation channel follows the subdivision side of the river making this facility and any moored boats vulnerable to wave wash and possible collision damage from passing vessels.
- Ensure that water-use facilities will not extend more than one-third the distance from the originating shoreline to the opposite shoreline at normal maximum pool elevation.
- Ensure that any floating structures will be securely anchored to prevent them from floating free during a flood event.
- Ensure that fixed structures have a floor elevation at least 1.5 feet above normal summer pool elevation of 507.5' above msl. *Justification: To avoid impacts and obstructions to navigation.*

10. The permittee must mitigate the 1.86 acres wetland impacts at a 2:1 ratio in a timely manner, as follows:

- The permittee shall purchase 1.86 mitigation credits from an approved Alabama mitigation bank no later than one year from the date of this permit. The permittee may use either the Jackson

County AL mitigation Bank, or either of the two new Madison County AL mitigation banks that should be available by fall 2009. Upon purchase of the credits, written verification shall be sent to this office, showing that 1.86 credits have been purchased for this project.

- Second, the permittee shall place a perpetual easement around the "waterfall" area to protect at least 1.86 acres of the subject property. This area shall be permanently protected from future construction and shall be indentured into a restrictive covenant that will become an attachment to the deeds and subdivision bylaws and run with the properties that connect to the area. The covenant shall be recorded in the Miscellaneous Document Book with the Register of Deeds or other appropriate official charged with responsibility for maintaining records of title and interest in real property. A certified copy of the record shall be furnished to this office within 30 days of recording, but no later than one year from the date of this permit. The restriction shall contain covenants prohibiting certain uses such as, but not limited to: any removal, alteration, or destruction of any native vegetation or natural habitat, agricultural, commercial, or industrial activity, any draining, filling, excavating, or dredging, any construction of buildings, any disruption or alterations of the stream. The restrictive covenant shall protect in perpetuity the ecological values of the mitigation sites. Justification: To reduce the potential for failure of the mitigation effort and to protect rare state-protected plants.

5.3 Findings of No Significant Impact (FONSI). Our inspection of the site has revealed no concerns. The proposed work would provide new and safe docking locations for boats moored at the individual lots in the subdivision. The work would occur in the back of a harbor, so minimal impacts to recreational navigation are expected.

The excavation would occur during the winter pool levels of Wilson Lake with materials deposited and stabilized upland at an approved disposal site above the floodplain contours. The banks along the marina would be stabilized under the proposed action. The proposal would provide new habitat for aquatic organisms and benefits to waterfowl. The proposed work would enhance economic prosperity of the subdivision, which meets the applicant's desires and needs. TVA issued a land use agreement to the applicant for the proposed work. The applicant has provided appropriate mitigation for the proposed wetland loss.

Based on a full consideration of the EA and information obtained during the public interest review, I have concluded that issuance or denial of the requested permit would not constitute a major federal action that would significantly affect the quality of the human environment. This constitutes a FONSI; therefore, the preparation of an Environmental Impact Statement is not required. This FONSI was prepared in accordance with paragraph 7a of Appendix B, 33 CFR 325.

5.4 Public Interest Determination. I have weighed the potential benefits that may be accrued as a result of the proposed action against its reasonably foreseeable detrimental effects and conclude that permit issuance would not be contrary to the public interest. The general conditions contained within the DA permit together with incorporating the recommended special conditions adequately address the environmental concerns identified in this document.

6.0 References

Alabama Department of Environmental Management, 2008. *Alabama's Water Quality Assessment and Listing Methodology*. Available at <http://www.adem.state.al.us/WaterDivision/WQuality/303d/WaterAssessmentMethodology2008final.pdf>.

FOR THE COMMANDER:

5/7/09
Date

Bradley N. Bishop
Chief, Western Regulatory Section
Operations Division